This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-46. (**Canceled**).

47. (Currently Amended) A method of alleviating a cognitive side effect due to cancer or a treatment for cancer comprising:

- identifying a patient suffering from said side effect, and
- administrating a composition comprising, as the active ingredient, a therapeutically effective amount of D-threo methylphenidate substantially free of L-threo methylphenidate and erythro methylphenidates to said patient-in a pulsatile release dosage form.

48. (Previously Presented) The method of claim 47 wherein said D-threo methylphenidate is in the form of a pharmaceutically acceptable salt.

49. (Previously Presented) The method of claim 47 wherein said cancer is a solid tumor or nonsolid tumor.

50. (Previously Presented) The method of claim 49 wherein said cancer is a solid tumor.

51. (Previously Presented) The method of claim 47 wherein said treatment comprises chemotherapy or radiation therapy.

52. (Previously Presented) The method of claim 47 wherein said dosage form comprises a pharmaceutically acceptable carrier.

53. (Previously Presented) The method of claim 52 wherein said carrier is a tablet or a capsule.

54. (Previously Presented) The method of claim 47 wherein said administration is by oral dosage form.

55. (Previously Presented) The method of claim 47 wherein said side effect comprises sedation, neurobehavioral slowing, decreased cognitive function, depression, apathy, decreased libido, or depersonalization.

56. (Currently Amended) A method of alleviating a cognitive side effect due to cancer or a treatment for cancer comprising:

- identifying a patient suffering from said side effect, and
- administrating a composition comprising, as the active ingredient, a therapeutically effective amount of D-threo methylphenidate substantially free of L-threo methylphenidate and erythro methylphenidates to said patient in a chronic, bolus dosage form.

57. (Previously Presented) The method of claim 56 wherein said D-threo methylphenidate is in the form of a pharmaceutically acceptable salt.

58. (Previously Presented) The method of claim 56 wherein said cancer is a solid tumor or nonsolid tumor.

59. (Previously Presented) The method of claim 58 wherein said cancer is a solid tumor.

60. (Previously Presented) The method of claim 56 wherein said treatment comprises chemotherapy or radiation therapy.

61. (Previously Presented) The method of claim 56 wherein said dosage form comprises a pharmaceutically acceptable carrier.

62. (Previously Presented) The method of claim 61 wherein said carrier is a solution, suspension, tablet, capsule, ointment, elixir, or injectable composition.

63. (Previously Presented) The method of claim 56 wherein said administration is by oral dosage form, injection, or infusion.

64. (Previously Presented) The method of claim 56 wherein said side effect comprises sedation, neurobehavioral slowing, decreased cognitive function, depression, apathy, decreased libido, or depersonalization.

65. (Currently Amended) A method of alleviating a cognitive side effect due to cancer or a treatment for cancer comprising:

- identifying a patient suffering from said side effect, and
- administrating a composition comprising, as the active ingredient, a therapeutically effective amount of D-threo methylphenidate substantially free of L-threo methylphenidate and erythro methylphenidates to said patient in a time release dosage form.

66. (Previously Presented) The method of claim 65 wherein said D-threo methylphenidate is in the form of a pharmaceutically acceptable salt.

67. (Previously Presented) The method of claim 65 wherein said cancer is a solid tumor or nonsolid tumor.

68. (Previously Presented) The method of claim 67 wherein said cancer is a solid tumor.

69. (Previously Presented) The method of claim 65 wherein said treatment comprises chemotherapy or radiation therapy.

70. (Previously Presented) The method of claim 65 wherein said dosage form comprises a pharmaceutically acceptable carrier.

71. (Previously Presented) The method of claim 70 wherein said carrier is a solution, suspension, tablet, or a capsule.

72. (Previously Presented) The method of claim 65 wherein said administration is by oral dosage form, injection, or infusion.

73. (Previously Presented) The method of claim 65 wherein said side effect comprises sedation, neurobehavioral slowing, decreased cognitive function, depression, apathy, decreased libido, or depersonalization.

74. (Currently Amended) A method of alleviating a cognitive side effect of chemotherapy comprising:

- identifying a patient suffering from said side effect, and
- administrating to the patient a composition comprising, as the active ingredient, a therapeutically effective amount of D-threo methylphenidate substantially free of L-threo methylphenidate and erythro methylphenidates following the end of at least one cycle of chemotherapy.

75. (Previously Presented) The method of claim 74 wherein said D-threo methylphenidate is in the form of a pharmaceutically acceptable salt.

76. (Previously Presented) The method of claim 74 wherein said administration is by oral dosage form, injection, infusion, or pharmaceutically acceptable carrier.

77. (Previously Presented) The method of claim 76 wherein said carrier is a solution, suspension, tablet, capsule, ointment, elixir, or injectable composition.

78. (Previously Presented) The method of claim 74 wherein said side effect comprises sedation, neurobehavioral slowing, decreased cognitive function, depression, apathy, decreased libido or depersonalization.